October 19, 2017

REMEDIAL INVESTIGATION / FEASIBILITY STUDY

Progress Report #15 – September 2017

Prepared for

COLUMBIA FALLS ALUMINUM COMPANY, LLC
2000 Aluminum Drive
Columbia Falls, Flathead County, Montana

ROUX ASSOCIATES, INC.

Environmental Consulting & Management

ROUX

209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

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A. Project Schedule

1.0 INTRODUCTION

This Progress Report (Report) presents a summary of activities completed during the period of September 2017, on behalf of Columbia Falls Aluminum Company, LLC (CFAC), for the Remedial Investigation / Feasibility Study (RI/FS) being performed at the Anaconda Aluminum Co. Columbia Falls Reduction Plant (a/k/a Columbia Falls Aluminum Plant) generally located near Columbia Falls in Flathead County, Montana ("Site"). The RI/FS is being conducted pursuant to the Administrative Settlement Agreement and Order on Consent (AOC) dated November 30, 2015 between CFAC and the United States Environmental Protection Agency (USEPA) (CERCLA Docket No. 08-2016-0002).

This Report provides a description of the actions that have been taken to comply with the AOC during the reporting period and describes work planned for the upcoming reporting period, including an updated project schedule as Appendix A. This report also provides updates regarding the availability of any new, validated sampling data received by CFAC during the reporting period. Lastly, this Report provides an update on any scope revisions and/or project delays encountered and solutions implemented to address any changes.

2.0 WORK COMPLETED

This Section provides a summary of activities completed or ongoing in September 2017.

2.1 Submittal of Final Phase I Site Characterization Data Summary Report and Screening Level Ecological Risk Assessment Summary Report

CFAC/Roux Associates received comments on the draft Phase I Site Characterization Data Summary Report (Data Summary Report) and draft Screening Level Ecological Risk Assessment (SLERA) on April 14, 2017 from USEPA and on April 17, 2017 from MDEQ. CFAC/Roux Associates submitted responses on May 26, 2017 to the comments provided by USEPA and MDEQ. The responses to comments were reviewed by USEPA and MDEQ in June 2017. Additional comments from USEPA were provided on June 13, 2017 and additional comments from MDEQ were provided on June 20, 2017. CFAC/Roux Associates reviewed the additional comments and submitted responses to the comments to USEPA/MDEQ on July 27, 2017. CFAC/Roux Associates also revised the Data Summary Report and SLERA as per the comments from both USEPA and MDEQ and a revised Data Summary Report was submitted to USEPA/MDEQ on July 27, 2017, and a revised SLERA was submitted to USEPA MDEQ on August 15, 2017. USEPA/MDEQ provided additional comments on the SLERA on September 8, 2017. USEPA determined that there were no further comments on the Data Summary Report in an e-mail correspondence on September 11, 2017. CFAC/Roux Associates reviewed the additional comments and submitted the Final Data Summary Report and SLERA on September 18, 2017, and submitted the response to SLERA comments on September 19, 2017. The approval of the Final Data Summary Report and SLERA is pending with USEPA and MDEQ.

2.2 Preparation of the Groundwater and Surface Water Data Summary Report

The Phase I Site Characterization Scope of Work described in the RI/FS Work Plan and Phase I Sampling and Analysis Plan included four rounds of surface water and groundwater sampling. The fourth and final round of sampling was completed in June 2017. Data collected from the fourth round of sampling was submitted for data validation in July 2017 and was received from the validator in August 2017.

As discussed with USEPA/MDEQ, the results of all four rounds of sampling will be included in a data summary report. The Groundwater and Surface Water Data Summary Report (GW and SW

Data Summary Report) will include a summary of slug testing field activities and data evaluation. The GW and SW Data Summary Report is expected to be submitted to USEPA/MDEQ for review in November 2017.

2.3 Preparation of the Asbestos Landfill Surface Soil Sampling Letter

Surface soil sampling at the Asbestos Landfills began on July 31, 2017 and was completed on August 10, 2017. The validated data generated during the surface soil sampling was received in September 2017. CFAC and Roux Associates are evaluating the validated data and are preparing a letter to describe the surficial soil sampling activities performed in the Asbestos Landfills as part of the Phase I Site Characterization and to summarize the analytical results of those activities. The letter is expected to be submitted to USEPA in October 2017.

2.4 Pot Room Basements

On September 1, 2017, CFAC/Roux Associates prepared an e-mail to USEPA requesting concurrence for Calbag Resources, LLC (Calbag) to proceed with the fracturing of the pot room basement floors as specified in Section 2.4 of Calbag's Waste Management Plan dated June 2016 and approved by MDEQ on June 26, 2016. USEPA responded with no objection with this plan via e-mail correspondence on September 9, 2017. Calbag will proceed with fracturing the basements of the Pot Rooms throughout the demolition activities.

2.5 South Percolation Ponds Expedited Risk Assessment Activities

On September 6, 2017, CFAC/Roux submitted a letter to USEPA requesting concurrence to expedite risk assessment activities in the South Percolation Ponds. As discussed with USEPA and MDEQ via conference call on August 8, 2017, high-water conditions in the Flathead River caused significant erosion of the dam on the east side of the Ponds. While the dam is currently stable, future highwater conditions in the Flathead River will cause additional erosion and could potentially compromise the dam if no action is taken. The purpose of the expedited risk assessment activities is to provide for a better understanding of environmental conditions in the Ponds and any potential human health or ecological risks associated with those conditions.

The proposed path forward described in the letter included, but was not limited to, determination of data gaps, development of a data gap sampling and analysis plan, a summary of field sampling

and analysis activities to be completed in October/November 2017, and development of a technical memorandum to summarize the work completed and risk assessment findings. The findings will be incorporated into the final baseline ecological and human health risk assessments. It is recognized that this expedited schedule does not allow sufficient time for detailed review and approval by USEPA/MDEQ prior to the additional field work in October/November 2017. Therefore, it is understood and accepted by CFAC that USEPA/MDEQ may have additional questions/comments or requirements that may need to be addressed following completion of the expedited risk assessment process. CFAC will address these as necessary on the back end of the expedited process, as part of the Phase II Site Characterization and Site-wide risk assessment process that will be ongoing at that time.

USEPA concurred with the plan to expedite risk assessment activities in the South Percolation Ponds via e-mail correspondence on September 12, 2017. CFAC/Roux is preparing an Expedited Risk Assessment Sampling and Analysis Plan (Expedited Risk Assessment SAP) for the South Percolation Ponds, and will provide the Expedited Risk Assessment SAP to USEPA prior to commencing field activities in late October/November 2017.

2.6 Investigation Derived Waste Management

The Phase I Site Characterization field work was completed in the Summer of 2017. The two onsite frac tanks that were utilized to manage investigation derived water throughout the Phase I were cleaned by Cascade Drilling on September 7, 2018. The tank contents (2,000 gallons of residual drilling materials and rinsate) were extracted and transported offsite via tanker truck on September 8, 2017 to Chemical Waste Management, 17629 Cedar Springs Lane, Oregon 97812, in accordance with the IDW Management Plan. The two tanks will be transported offsite by Cascade Drilling in October 2017.

2.7 Concrete Sampling and Data Evaluation

Concrete sampling of one crushed concrete stockpile (Stockpile 01A and 01B together as one 5,000 cubic yard stockpile identified as Stockpile 01) was conducted by Hydrometrics on August 10, 2017, in accordance with the path forward outlined in the e-mail correspondence from USEPA dated June 28, 2017. The concrete sample was sent to TestAmerica in Edison, New Jersey. Concrete data was sent for data validation in August 2017 and was received in September 2017.

Concrete sampling of one crushed concrete stockpile (one 2,500 cubic yard stockpile identified as Stockpile 02) was conducted by Hydrometrics on September 1, 2017. The concrete sample was sent to TestAmerica in Edison, New Jersey. Concrete data was sent for data validation in September 2017 and is anticipated to be received in October 2017.

The results of the concrete sampling are being evaluated by CFAC/Roux and will be provided to the USEPA and MDEQ for review and concurrence throughout the sampling efforts, prior to using any concrete for demolition backfilling activities.

2.8 Weekly Reporting, Project Conference Calls, and Project Meetings

No field work was performed in September 2017, and therefore, no weekly reports were submitted.

A project update conference call was held with the project team on September 14, 2017. Representatives from USEPA, MDEQ, CFAC, and Roux Associates were present for the call. The call was held to provide an update on the Phase I Data Summary Report and SLERA Summary Report, a summary of the work completed during summer 2017 including slug testing and Asbestos Landfill surficial soil sampling, an update on the South Percolation Ponds Expedited Risk Assessment, and an update on Main Plant basement floors and demolition progress. Additionally, topics discussed included work progress, schedule, and upcoming public meetings. The next project update call is scheduled for October 5, 2017 at the CFAC Site.

3.0 WORK PLANNED FOR NEXT REPORTING PERIOD

This section summarizes the work planned for the next reporting period of October 2017.

3.1 Groundwater and Surface Water Sampling Data Summary Report

As noted in Section 2.2, CFAC/Roux Associates will continue evaluating the four rounds of data and will continue preparation of the GW & SW Data Summary Report during the next reporting period. The GW & SW Data Summary Report is expected to be submitted to USEPA in November 2017.

3.2 Asbestos Landfill Surface Soil Sampling

As described in Section 2.3, CFAC and Roux Associates will submit a summary of the Asbestos Landfill surficial soil sampling results and evaluation of the data to the USEPA/MDEQ in a separate letter report in October 2017.

3.3 Concrete Sampling and Data Evaluation

Sampling and laboratory analysis of concrete from the Main Plant building is planned to continue during the next reporting period(s), in accordance with the path forward outlined in the email correspondence from USEPA dated June 28, 2017. As noted in the e-mail correspondence, concrete will be sampled after being removed from the Main Plant Building and after being crushed by Calbag. Concrete samples will be collected at a minimum frequency of one, 30-point composite sample per 5,000 cubic yards of crushed concrete. Results of the concrete sampling activities will be provided to the USEPA and MDEQ for review and concurrence throughout the sampling efforts, prior to using any concrete for demolition backfilling activities.

4.0 DATABASE UPDATES

Validation of laboratory data from the Phase I Site Characterization is being performed by Laboratory Data Consultants (LDC) as a subcontractor to Roux Associates. The validated results of the Asbestos Landfill surficial soil sampling were received from LDC in September 2017. The results of the sampling were not provided by the laboratory as electronic data deliverables (EDDs), and therefore, the validated results were not uploaded to the CFAC RI/FS database by Roux Associates during September 2017. As discussed in Section 2.3, the results of the Asbestos Landfill surficial soil sampling will be provided to USEPA in a letter report during the next reporting period.

Validated data will continue to be imported into the project database and managed in accordance with the data management procedures outlined in Section 7.10 of the QAPP. Future progress reports will discuss updates to the project database.

5.0 SCOPE/SCHEDULE REVISIONS

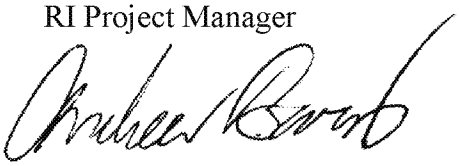
An updated Phase I Site Characterization schedule is attached to this Progress Report in Appendix A. The schedule was updated to reflect progress based on RI/FS activities completed through September 2017. The project schedule was revised as per the outcomes of the discussions with USEPA and MDEQ in August 2017 and to account for response time to the additional EPA/MDEQ comments/revisions on the Phase I Data Summary Report and SLERA Summary Report. No changes to the schedule are expected at this time for the remaining Phase I Site Characterization tasks.

On behalf of CFAC, Roux Associates will continue to pursue the overall objectives described in the AOC and the RI/FS Work Plan. Roux Associates will continue to inform the USEPA of completed and upcoming activities pursuant to the requirements of the AOC in future progress reports.

Respectfully submitted,

ROUX ASSOCIATES, INC.

Michael Ritorto
Principal Hydrogeologist /
RI Project Manager



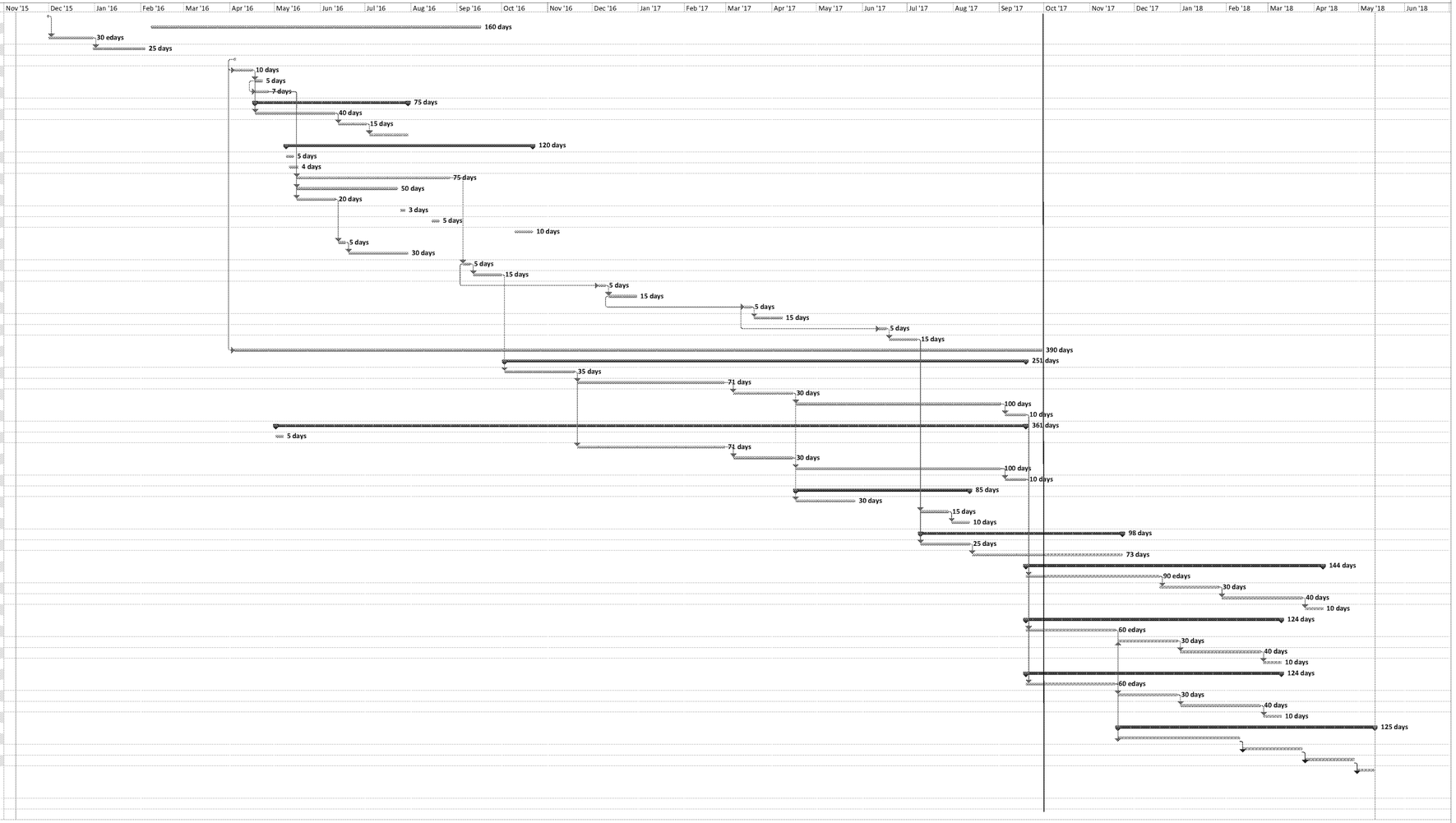
Andrew Baris
Vice President / Principal Hydrogeologist
RI/FS Project Manager

APPENDIX A

Project Schedule

CFAC RI/FS Schedule Updated September 30, 2017

ID	Deliverable	Task Name	Duration	Start	Finish	Company	Predecessors
1		AOC is executed by all parties	1 day	Mon 11/30/15	Mon 11/30/15	EPA/CFAC	
2		Historical Records Review	160 days	Mon 2/8/16	Fri 9/16/16	Roux	
3	X	Draft Health and Safety Plan (HASP)	30 edays	Mon 11/30/15	Wed 12/30/15	Roux	1
4	X	Final Health and Safety Plan (HASP)	25 days	Thu 12/31/15	Wed 2/3/16	Roux	3
5		Site is clear of Snow / Field Work Begins	1 day	Mon 4/4/16	Mon 4/4/16		
6		Pre-Intrusive Task 1 - Site Reconnaisance	10 days	Mon 4/4/16	Fri 4/15/16	Roux	5SS
7		Pre-Intrusive Task 2 - Geophysical Survey	5 days	Mon 4/18/16	Fri 4/22/16	Roux	6
8		Pre-Intrusive Task 3 - Soil Gas Survey	7 days	Mon 4/18/16	Tue 4/26/16	Roux	7SS
9		**SAP Addendum**	**75 days**	**Mon 4/18/16**	**Fri 7/29/16**	**Roux**	
10	X	Draft SAP Addendum	40 days	Mon 4/18/16	Fri 6/10/16	Roux	6
11		EPA Review of Draft SAP Addendum	15 days	Mon 6/13/16	Fri 7/1/16	EPA	10
12	X	Final SAP Addendum	20 days	Mon 7/4/16	Fri 7/29/16	Roux	11
13		**Source Area Investigation - Phase I Site Characterization Field Activities**	**120 days**	**Mon 5/9/16**	**Fri 10/21/16**	**Roux/Hydrometrics**	
14		GPR Utility Mark-Outs	5 days	Mon 5/9/16	Fri 5/13/16	Roux	
15		Clearing / Grading for Drill Rig Access	4 days	Wed 5/11/16	Mon 5/16/16	Roux	
16		Sonic Rig 1	75 days	Mon 5/16/16	Fri 8/26/16	Roux	8FS+10 days
17		Sonic Rig 2	50 days	Mon 5/16/16	Fri 7/22/16	Roux	8FS+10 days
18		Geoprobe	20 days	Mon 5/16/16	Fri 6/10/16	Hydrometrics	8FS+10 days
19		Landfill GPR Survey Field Work	3 days	Mon 7/25/16	Wed 7/27/16	Roux	
20		Test Pitting	5 days	Mon 8/15/16	Fri 8/19/16	Roux	
21		Additional Monitoring Well redevelopment activities	10 days	Mon 10/10/16	Fri 10/21/16	Hydrometrics	
22		Background Area Investigation	5 days	Mon 6/13/16	Fri 6/17/16	Hydrometrics	18
23		Operational Grid Area Investigation	30 days	Mon 6/20/16	Fri 7/29/16	Hydrometrics	22
24		Site-Wide Surface Water Sampling - Event 1	5 days	Mon 9/5/16	Fri 9/9/16	Roux/Hydrometrics	16FS+5 days
25		Site-Wide Groundwater Sampling - Event 1	15 days	Mon 9/12/16	Fri 9/30/16	Roux/Hydrometrics	24
26		Site-Wide Surface Water Sampling - Event 2	5 days	Mon 12/5/16	Fri 12/9/16	Roux/Hydrometrics	24SS+90 edays
27		Site-Wide Groundwater Sampling - Event 2	15 days	Mon 12/12/16	Fri 12/30/16	Roux/Hydrometrics	26
28		Site-Wide Surface Water Sampling - Event 3	5 days	Mon 3/13/17	Fri 3/17/17	Roux/Hydrometrics	27SS+90 edays
29		Site-Wide Groundwater Sampling - Event 3	15 days	Mon 3/20/17	Fri 4/7/17	Roux/Hydrometrics	28
30		Site-Wide Surface Water Sampling - Event 4	5 days	Mon 6/12/17	Fri 6/16/17	Roux/Hydrometrics	28SS+90 edays
31		Site-Wide Groundwater Sampling - Event 4	15 days	Mon 6/19/17	Fri 7/7/17	Roux/Hydrometrics	30
32		Investigation Derived Waste Management/Disposal	390 days	Mon 4/4/16	Fri 9/29/17	Roux	5SS
33		**Phase 1 Site Characterization Data Summary Report**	**251 days**	**Mon 10/3/16**	**Mon 9/18/17**	**Roux**	
34		Data Validation Completion	35 days	Mon 10/3/16	Fri 11/18/16	Data Validator	25
35	X	Draft Phase I Site Characterization Summary Report to EPA/MDEQ	71 days	Mon 11/21/16	Mon 2/27/17	Roux	34
36		EPA review of Draft Phase I Data Summary Report	30 days	Mon 3/6/17	Fri 4/14/17	EPA	35
37	X	Response to EPA/MDEQ Comments on Draft Phase I Data Summary Report	100 days	Mon 4/17/17	Fri 9/1/17	Roux/EPA	36
38	X	Final Submission of Phase I Summary Report to EPA/MDEQ	10 days	Tue 9/5/17	Mon 9/18/17	Roux	37
39		**Screening Level Ecological Risk Assessment (SLERA)**	**361 days**	**Mon 5/2/16**	**Mon 9/18/17**	**Roux**	
40		Completion of SLERA Field Work	5 days	Mon 5/2/16	Fri 5/6/16	Roux	
41	X	Draft SLERA Summary Report	71 days	Mon 11/21/16	Mon 2/27/17	Roux	34
42		EPA review of Draft SLERA Report	30 days	Mon 3/6/17	Fri 4/14/17	EPA	41
43	X	Response to EPA/MDEQ Comments on Draft SLERA Summary Report	100 days	Mon 4/17/17	Fri 9/1/17	Roux/EPA	42
44	X	Final Submission of SLERA Report to EPA/MDEQ	10 days	Tue 9/5/17	Mon 9/18/17	Roux	43
45		**2017 Additional Field Activities**	**85 days**	**Mon 4/17/17**	**Fri 8/11/17**	**Roux**	
46		Preparation of 2017 field activities plan/SAP Mods	30 days	Mon 4/17/17	Fri 5/26/17	Roux	36
47		Pnuematic Slug Testing	15 days	Mon 7/10/17	Fri 7/28/17	Roux	31
48		Asbestos Landfill Soil Sampling	10 days	Mon 7/31/17	Fri 8/11/17	Roux/Hydrometrics	47
49		**Groundwater and Surface Water Sampling Data Summary Report**	**98 days**	**Mon 7/10/17**	**Wed 11/22/17**	**Roux**	
50		Validation of Round 4 sampling data	25 days	Mon 7/10/17	Fri 8/11/17	Data Validator	31
51	X	GW/SW Summary Report to EPA/MDEQ	73 days	Mon 8/14/17	Wed 11/22/17	Roux	50
52		**Candidate Technologies Memo**	**144 days**	**Mon 9/18/17**	**Fri 4/6/18**	**Roux**	
53	X	Draft Candidate Technologies Memo to EPA/MDEQ	90 edays	Mon 9/18/17	Sun 12/17/17	Roux	38
54		EPA review of draft Candidate Technologies Memo	30 days	Mon 12/18/17	Fri 1/26/18	EPA	53
55	X	Response to EPA/MDEQ comments on Candidate Technologies Memo	40 days	Mon 1/29/18	Fri 3/23/18	Roux	54
56	X	Final Candidate Technologies Memo to EPA/MDEQ	10 days	Mon 3/26/18	Fri 4/6/18	Roux	55
57		**Baseline Human Health Risk Assessment Work Plan**	**124 days**	**Mon 9/18/17**	**Fri 3/9/18**	Roux	
58	X	Draft BHHRA Work Plan to EPA/MDEQ	60 edays	Mon 9/18/17	Fri 11/17/17	Roux/EHS Support	38
59		EPA review of Draft BHHRA Work plan	30 days	Mon 11/20/17	Fri 12/29/17	EPA	63
60	X	Response to EPA/MDEQ Comments on BHHRA Work Plan	40 days	Mon 1/1/18	Fri 2/23/18	Roux	59
61	X	Final Submission of BHHRA WP to EPA/MDEQ	10 days	Mon 2/26/18	Fri 3/9/18	Roux	60
62		**Baseline Ecological Risk Assessment Work Plan**	**124 days**	**Mon 9/18/17**	**Fri 3/9/18**	**Roux**	
63	X	Draft BERA Work Plan to EPA/MDEQ	60 edays	Mon 9/18/17	Fri 11/17/17	Roux/EHS Support	44
64		EPA reivew of Draft BERA Work Plan	30 days	Mon 11/20/17	Fri 12/29/17	EPA	63
65	X	Response to EPA/MDEQ Comments on BERA Work Plan	40 days	Mon 1/1/18	Fri 2/23/18	Roux	64
66	X	Final Submission BERA Work Plan to EPA/MDEQ	10 days	Mon 2/26/18	Fri 3/9/18	Roux	65
67		**Phase II Remedial Investigation Sampling and Analysis Plan**	**125 days**	**Mon 11/20/17**	**Fri 5/11/18**	**Roux**	
68	X	Draft Phase II Sampling and Analysis Plan to EPA/MDEQ	60 days	Mon 11/20/17	Fri 2/9/18	Roux	58,63
69		EPA reivew of draft Phase II Sampling and Analysis Plan	30 days	Mon 2/12/18	Fri 3/23/18	EPA	68
70	X	Response to EPA/MDEQ Comments on Phase II Sampling and Analysis Plan	25 days	Mon 3/26/18	Fri 4/27/18	Roux	69
71	X	Final Phase II Sampling and Analysis Plan	10 days	Mon 4/30/18	Fri 5/11/18	Roux	70



Scheduled Task Task Progress Complete Summary